

WHAT IS CLAIMED IS:

- 1                   1.       A method for identifying an agent for treating a diabetic or pre-diabetic  
2 individual, the method comprising the steps of:  
3                   (i)       contacting an agent to a mixture comprising a polypeptide encoded by  
4 a nucleic acid that hybridizes under stringent conditions to a nucleic acid encoding SEQ ID  
5 NO:2, SEQ ID NO:8, SEQ ID NO:12, SEQ ID NO:16, SEQ ID NO:22, SEQ ID NO:26, SEQ  
6 ID NO:28, or SEQ ID NO:32; and  
7                   (ii)       selecting an agent that modulates the expression or activity of the  
8 polypeptide or that binds to the polypeptide, thereby identifying an agent for treating a  
9 diabetic or pre-diabetic individual.
- 1                   2.       The method of claim 1, the method further comprising selecting an  
2 agent that modulates insulin sensitivity.
- 1                   3.       The method of claim 1, wherein step (ii) comprises selecting an agent  
2 that modulates expression of the polypeptide.
- 1                   4.       The method of claim 1, wherein step (ii) comprises selecting an agent  
2 that modulates the activity of the polypeptide.
- 1                   5.       The method of claim 1, wherein step (ii) comprises selecting an agent  
2 that specifically binds to the polypeptide.
- 1                   6.       The method of claim 1, wherein the polypeptide is expressed in a cell  
2 and the cell is contacted with the agent.
- 1                   7.       The method of claim 1, wherein the polypeptide is SEQ ID NO:2, SEQ  
2 ID NO:8, SEQ ID NO:12, SEQ ID NO:16, SEQ ID NO:22, SEQ ID NO:26, SEQ ID NO:28,  
3 or SEQ ID NO:32
- 1                   8.       A method of treating a diabetic or pre-diabetic animal, the method  
2 comprising administering to the animal a therapeutically effective amount of an agent  
3 identified by the method of claim 1.
- 1                   9.       The method of claim 8, wherein the agent is an antibody.

- 1                   10.     The method of claim 9, wherein the antibody is a monoclonal  
2 antibody.
- 1                   11.     The method of claim 8, wherein the animal is a human.
- 1                   12.     A method of introducing an expression cassette into a cell, the method  
2 comprising,  
3                   introducing into the cell an expression cassette comprising a promoter  
4 operably linked to a polynucleotide encoding a polypeptide, wherein the polynucleotide  
5 hybridizes under stringent conditions to a nucleic acid encoding SEQ ID NO:2, SEQ ID  
6 NO:8, SEQ ID NO:12, SEQ ID NO:16, SEQ ID NO:22, SEQ ID NO:26, SEQ ID NO:28, or  
7 SEQ ID NO:32.
- 1                   13.     The method of claim 12,, wherein the polypeptide comprises SEQ ID  
2 NO:2, SEQ ID NO:8, SEQ ID NO:12, SEQ ID NO:16, SEQ ID NO:22, SEQ ID NO:26, SEQ  
3 ID NO:28, or SEQ ID NO:32.
- 1                   14.     The method of claim 12, wherein the cell is selected from the group  
2 consisting of an adipocyte and a skeletal muscle cell.
- 1                   15.     The method of claim 12, the method further comprising introducing  
2 the cell into a human.
- 1                   16.     The method of claim 15, wherein the human is diabetic.
- 1                   17.     The method of claim 15, wherein the human is prediabetic.
- 1                   18.     The method of claim 15, wherein the cell is from the human.
- 1                   19.     A method of diagnosing an individual who has Type 2 diabetes or is  
2 prediabetic, the method comprising,  
3                   detecting in a sample from the individual the level of a polypeptide or the level  
4 of a polynucleotide encoding the polypeptide, wherein the polynucleotide hybridizes under  
5 stringent conditions to a nucleic acid encoding an amino acid sequence selected from the  
6 group consisting of SEQ ID NO:2, SEQ ID NO:8, SEQ ID NO:12, SEQ ID NO:16, SEQ ID  
7 NO:22, SEQ ID NO:26, SEQ ID NO:28, and SEQ ID NO:32;

8                    wherein a modulated level of the polypeptide or polynucleotide in the sample  
9   compared to a level of the polypeptide or polynucleotide in either a lean individual or a  
10   previous sample from the individual indicates that the individual is diabetic or prediabetic.

1                    20.    The method of claim 19, wherein the detecting step comprises  
2   contacting the sample with an antibody that specifically binds to the polypeptide.

1                    21.    The method of claim 19, wherein the amino acid sequence comprises  
2   SEQ ID NO:2, SEQ ID NO:8, SEQ ID NO:12, SEQ ID NO:16, SEQ ID NO:22, SEQ ID  
3   NO:26, SEQ ID NO:28, or SEQ ID NO:32

1                    22.    The method of claim 19, wherein the detecting step comprises  
2   quantifying mRNA encoding the polypeptide.

1                    23.    The method of claim 22, wherein the mRNA is reverse transcribed and  
2   amplified in a polymerase chain reaction.

1                    24.    The method of claim 19, wherein the sample is a blood, urine or tissue  
2   sample.

1                    25.    An isolated nucleic acid encoding a polypeptide of SEQ ID NO:26.

1                    26.    The isolated nucleic acid of claim 25, wherein the polypeptide is  
2   encoded by a nucleic acid comprising SEQ ID NO:25.

1                    27.    An expression vector comprising the nucleic acid of claim 25.

1                    28.    A host cell comprising the expression vector of claim 27.